

# National Student Summit on Ocean Issues



## Presented by:

Robert A. Millikan High School  
Long Beach, California

### Student Participants

- Caitlin Ott-Conn
- Jazzmin Mason-Berry
- Nathan Kogen
- Rachel Frankenfield
- Samantha Peake
- Annie Gholson

### Trip Advisors

- Woody Williams- Robert A. Millikan High School
- Amy Coppenger- Aquarium of the Pacific
- John McCord- Aquarium of the Pacific



# Southern California, a great place to live!



# More Reasons to Love Southern California!



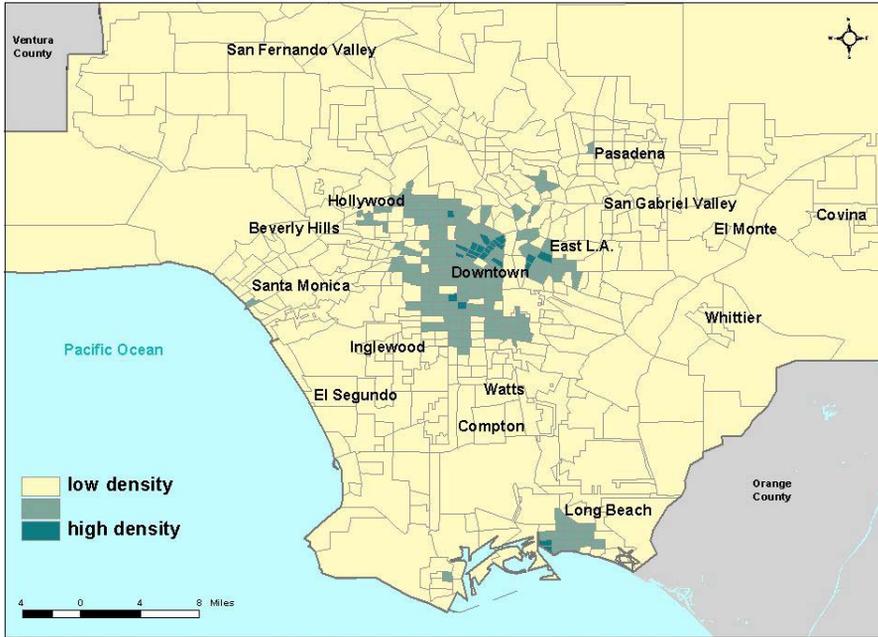
# Southern California Population Growth 1800-2000



## Los Angeles County: Population Density 1800

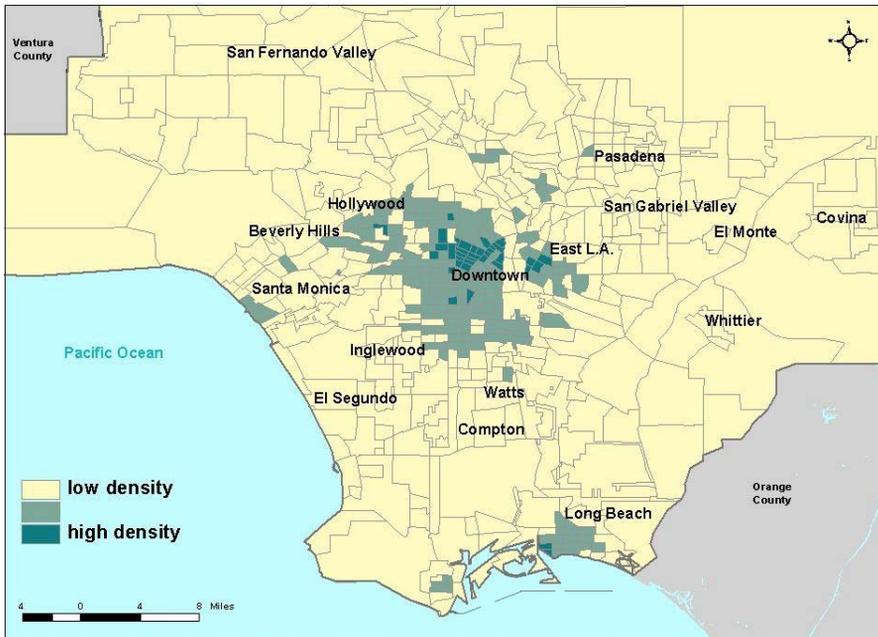


## Los Angeles County: Population Density 1930



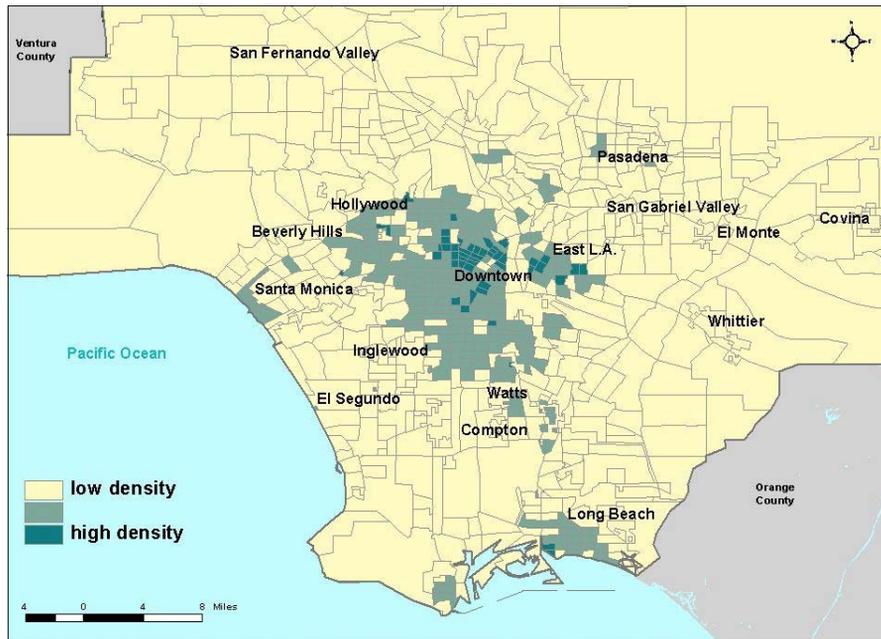
Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## Los Angeles County: Population Density 1940



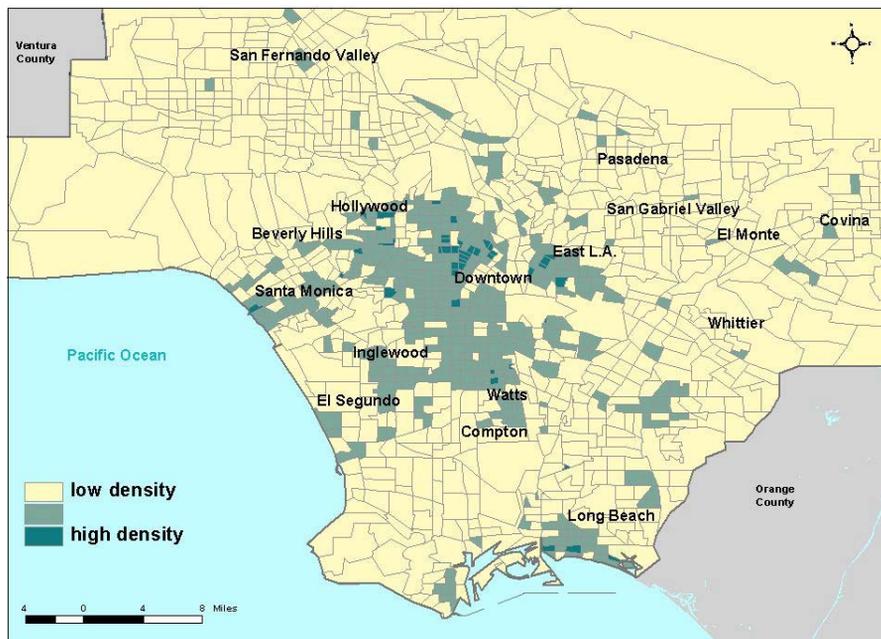
Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## Los Angeles County: Population Density 1950



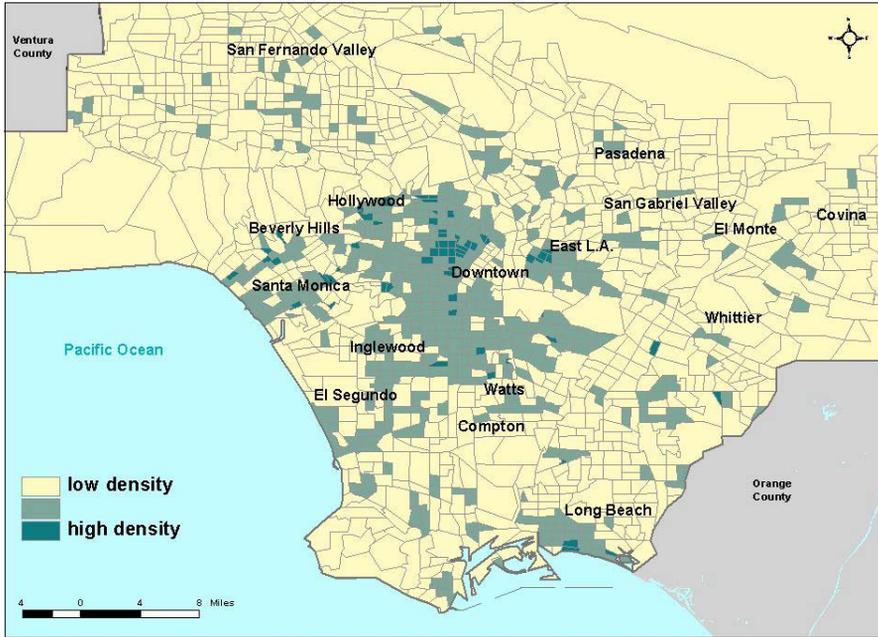
Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## Los Angeles County: Population Density 1960



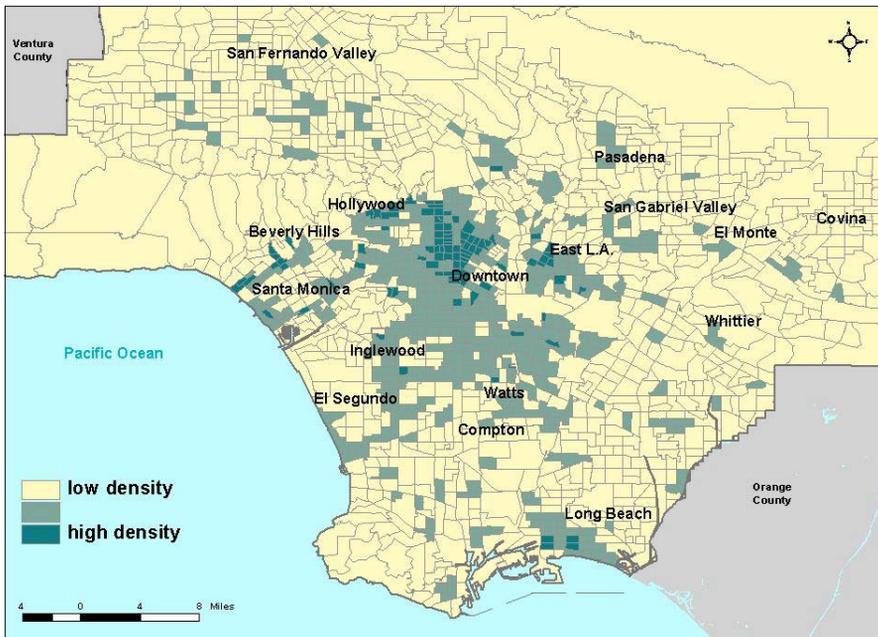
Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## Los Angeles County: Population Density 1970



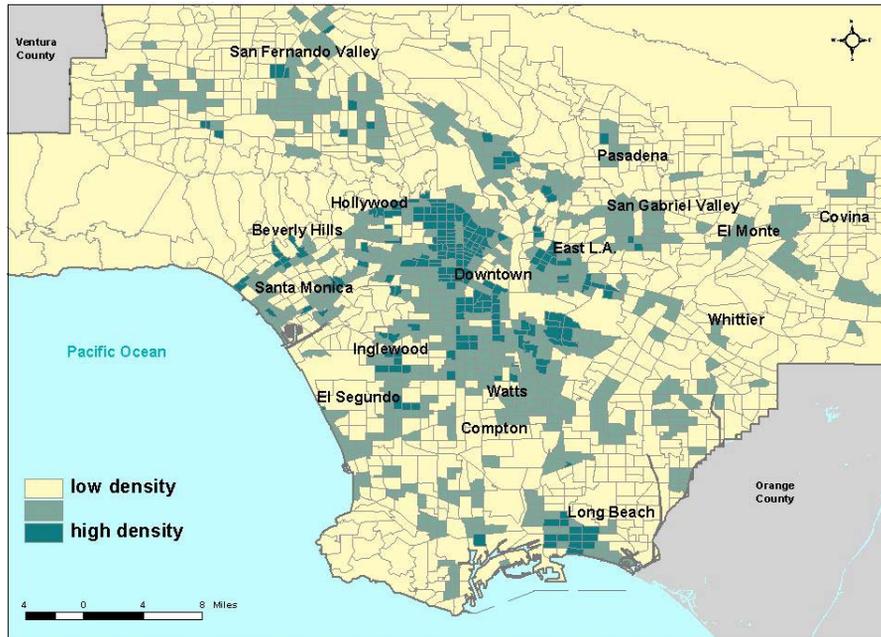
Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## Los Angeles County: Population Density 1980



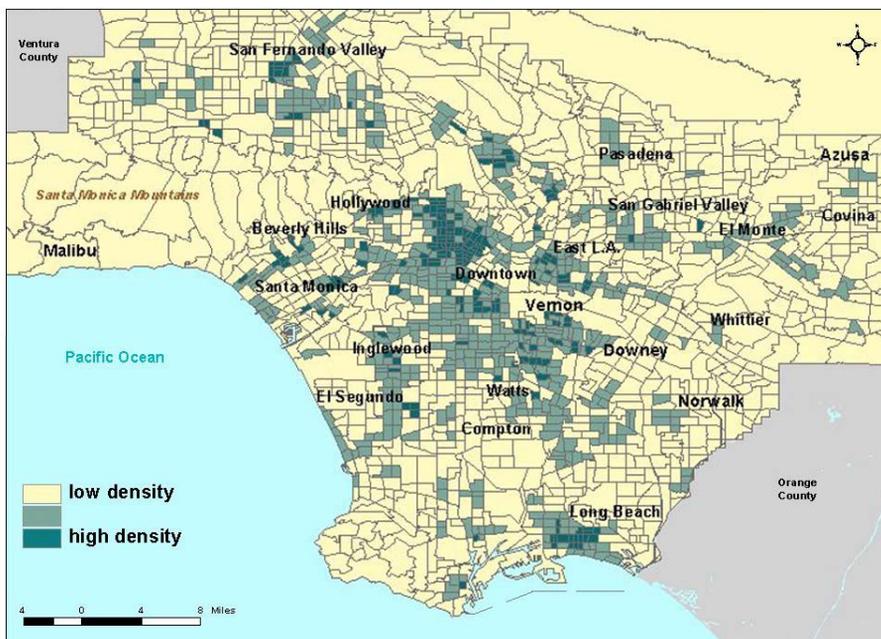
Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## Los Angeles County: Population Density 1990



Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## Los Angeles County: Population Density 2000



Data Assembled by Michela Zonta and Paul Ong, UCLA Lewis Center for Regional Policy Studies

## An effect of population growth...

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## Pollution

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“An undesirable change in the environment, usually the introduction of abnormally high concentrations of hazardous or detrimental substances, heat, or noise.”

[Dictionary of Ecology and Environmental Science](#)



## Nonpoint sources

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“Pollution producing entities that are **NOT** tied to a specific origin such as an individual smoke stack.”

[Dictionary of Ecology and Environmental Science](#)

## Examples of Nonpoint Source Pollution

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### Runoff



# Nonpoint Source Pollution Effects

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## Habitat Destruction



# Nonpoint Source Pollution Effects

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## Marine Life Ingestion



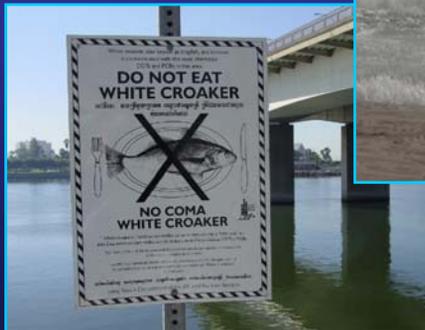
# Nonpoint Source Pollution Effects

## Marine Life Entanglement



# Nonpoint Source Pollution Effects

## Effects on Humans



It all starts at the gutter...



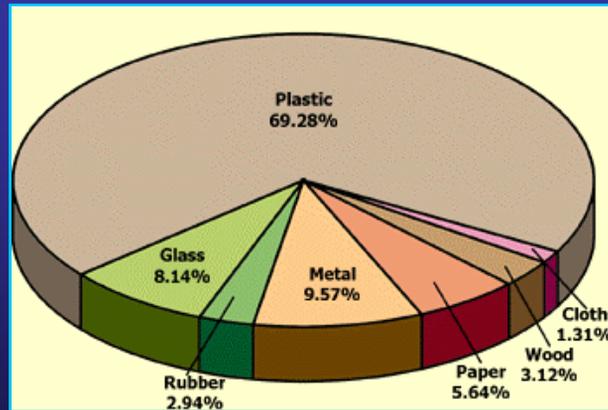
which lead to the storm drains...



...and flows to the ocean.



## Components of Nonpoint Source Pollution



\* Graph indicates results from a typical beach cleanup

## Plastic: an indiscriminating polluter

90% of all floating marine debris are plastics

### Plastic Problems

- Animal impairment
- Animal ingestion
- Habitat destruction
- Indefinite decomposition
- Large concentrations adrift



# Solutions start with you!

Four solutions from our high school to yours.



## Marketing Awareness Campaign

Addressing the Issue of  
Pollution Through Information



# Golden Can Award

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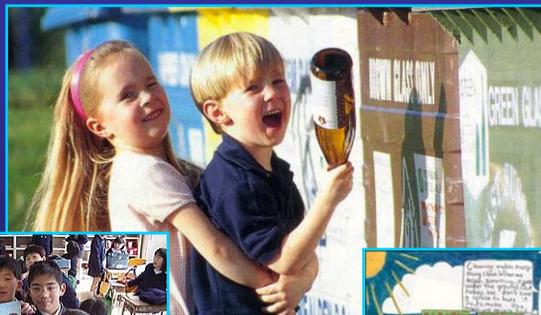
Award designed to recognize and reward good "Green Behavior"



# Elementary Education Program

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Students Teaching Students



## On Campus Recycling Program



"Never doubt that a small group of thoughtful, committed people can change the world. Indeed it is the only thing that ever has."

-Margaret Meade

Thank you!



Thank you for believing in the potential of students.

